ABSTRACT

A microelectromechanical (MEM) device for redirecting incident light is disclosed. The MEM device utilizes a pair of electrostatic actuators formed one above the other from different stacked and interconnected layers of polysilicon to move or tilt an overlying light-reflective plate (i.e. a mirror) to provide a reflected component of the incident light which can be shifted in phase or propagation angle. The MEM device, which utilizes leveraged bending to provide a relatively-large vertical displacement up to several microns for the light-reflective plate, has applications for forming an electrically-programmable diffraction grating (i.e. a polychromator) or a micromirror array.